UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
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ART UNIT	PAPER NUMBER
3622	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/845,051	KEIL ET AL.
	Examiner	Art Unit	
	DANIEL LASTRA	3622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>04 April 2005</u>.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-31 and 39-71</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-31 and 39-71</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   Claims 1-31 and 39-71 have been examined. Application 09/845,051 (SYSTEM TO PROVIDE CONSUMER PREFERENCE INFORMATION) has a filing date 04/27/2001.

Response to Amendment

2.   In response to Non Final Rejection filed 10/04/2004, the Applicant filed an amended on 04/04/2005, which amended claims 1, 22, 31. Applicant elected to prosecute Group I, claims 1-33 and 39-71 and withdrew claims 34-38 and 72-76. The Applicant is correct when he indicates that Group I in the previous Office Action restriction consists of claims 1-33 and 39-71 and not 38-71. The Examiner wants to mention that the Applicant elected to prosecute claims 1-33, however, Applicant marked claims 32 and 33 as withdrawn. The Examiner would consider said marking as a typographical error and would prosecute claims 32 and 33.

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-33, 39-71 are rejected under 35 U.S.C. 102(b) as being anticipated by Herz (U.S. 6,029,195).

As per claims 1, 31, 39 Herz teaches:

A *computer implemented* method for determining preference information, comprising:

determining preference information associated with a consumer (see column 6, lines 16-59); and

mixing, *using a computing device,* the preference information with preference information associated with a plurality of consumers (see column 7, line 19 – column 8, line 47; column 12, lines 25-35),

wherein a degree to which the preference information associated with the consumer is mixed with the preference information associated with the plurality of consumers is different than a second degree to which second preference information associated with a second consumer is mixed with preference information of a second plurality of consumers (see column 16, line 52 – column 17, line 57; column 21, line 5 – column 22, line 29; column 29, lines 1-35).

As per claims 2, 31, 40 and 69, Herz teaches:

A method according to Claim 1, wherein the preference information associated with the consumer and the preference information associated with the plurality of other consumers comprise normalized part worth values (see column 65, line 50 – column 66, line 61).

As per claims 3, 41 Herz teaches:

A method according to Claim 2, wherein the preference information associated with the consumer and the preference information associated with the plurality of other

consumers comprise currency-normalized part worth values (see column 65, line 50 –

column 66, line 61).

As per claims 4, 27, 42 and 65, Herz teaches:

A method according to Claim 1, further comprising:

selecting the plurality of consumers from a group of past consumers based on

attribute levels identified as unacceptable by each consumer of the group of past

consumers (see column 21, lines 35-67).

As per claims 5, 28, 43 and 66 Herz teaches:

A method according to Claim 4, wherein the selected plurality of consumers are

members of the group of past consumers who identified similar attribute levels as

unacceptable (see column 21, lines 35-67).

As per claims 6, 29, 44 and 67, Herz teaches:

A method according to Claim 1, further comprising:

selecting the plurality of consumers from a group of past consumers based on

part worth values associated with each consumer of the group of past consumers (see

column 21, lines 5-35).

As per claims 7, 30, 45 and 68, Herz teaches:

A method according to Claim 6, wherein the selected plurality of consumers are

members of the group of past consumers who are associated with similar preference

information (see column 6, lines 17-59).

As per claims 8, 46, Herz teaches:

A method according to Claim 1, wherein mixing the preference information comprises:

normalizing the preference information (see column 15, lines 35-67);

determining consumer subgroups (see column 89, lines 25-50);

assigning the consumer to one of the consumer subgroups (see column 89, lines 25-67); and

mixing preference information associated with the one of the consumer subgroups with the preference information associated with the consumer (see column 87, lines -5-40).

As per claims 9, 47, Herz teaches:

A method according to Claim 8, wherein determining consumer subgroups comprises:

assigning past consumers to subgroups based on attribute levels that the past consumers indicated as unacceptable (see column 21, lines 35-67).

As per claims 10, 48, Herz teaches:

A method according to Claim 8, wherein determining consumer subgroups comprises:

assigning past consumers to subgroups based on part worth values associated with the past consumers (see column 5, line 30 – column 6, line 30).

As per claims 11, 23, 24, 49, 61 and 62 Herz teaches:

A method according to Claim 1, wherein mixing the preference information comprises:

providing trade-off questions to the consumer (see column 12, lines 25-38; column 18, lines 10-67);

receiving actual answers to the trade-off questions (see column 18, lines 10-30);

predicting consumer answers to the trade-off questions based on the preference information associated with the consumer (see column 19, lines 9-27); and

predicting subgroup answers to the trade-off questions based on the preference information associated with the plurality of consumers (see column 19, lines 8-67),

wherein the preference information is mixed with the preference information associated with the plurality of consumers based on the actual answers, the predicted consumer answers and the predicted subgroup answers (see column 23, line 60 – column 24, line 40).

As per claims 12, 25, 26, 50, 63 and 64 Herz teaches:

A method according to Claim 11, further comprising:

determining a mixing parameter based on the actual answers, the predicted consumer answers and the predicted subgroup answers, wherein the preference information is mixed with the preference information associated with the plurality of consumers based on the mixing parameter (see column 23, line 60 – column 24, line 40).

As per claims 13, 51, Herz teaches:

A method according to Claim 1, further comprising:

determining an offer to sell a product based on the mixed preference information (see column 23, line 60 – column 24, line 40).

As per claims 14, 33, 52 and 71, Herz teaches:

A method according to Claim 13, further comprising:

providing the offer to the consumer (see column 9, line 55-67).

As per claims 15, 53, Herz teaches:

A method according to Claim 1, wherein the first plurality of consumers is identical to the second plurality of consumers (see column 23, line 60 – column 24, line 40).

As per claims 16, 54, Herz teaches:

A method according to Claim 1, wherein the first plurality of consumers does not include any consumers belonging to the second plurality of consumers (see column 7, line 50 – column 8, line 47).

As per claims 17, 55, Herz teaches:

A method according to Claim 1, wherein one or more of the first plurality of consumers are members of the second plurality of consumers (see column 7, line 50 – column 8, line 47).

As per claims 18, 56, Herz teaches:

A method according to Claim 1, wherein the plurality of consumers comprises all past consumers for whom preference information is stored (see column 17, lines 1-10).

As per claims 19, 57, Herz teaches:

A method according to Claim 1, wherein the plurality of consumers comprises a predetermined number of past consumers for whom preference information is stored (see column 17, lines 1-56).

As per claims 20, 58, Herz teaches:

A method according to Claim 19, wherein the predetermined number of past consumers are determined based on a time at which preference information associated with each of the predetermined number of consumers was collected (see column 18, lines 10-67).

As per claims 21, 59, Herz teaches:

A method according to Claim 1, wherein the plurality of consumers comprises all past consumers for whom preference information was collected during a particular time period (see column 18, lines 9-67).

As per claims 22, 60, Herz teaches:

A computer implemented method for determining preference information, comprising:

determining preference information associated with a consumer (see column 9, line 42 – column 10, line 27) ;

validating the preference information (see column 30, line 46 – column 31, line 10); and

mixing *using a computing device* the preference information with preference information associated with a plurality of consumers based on the validating step (see column 17, lines 1-55).

As per claims 32 and 70, Herz teaches:

A method according to claim 31, further comprising: providing an offer based on the currency-normalized information (see column 29, lines 1-35).

Response to Arguments

4.   Applicant's arguments filed 04/04/05 have been fully considered but they are not

persuasive. The Applicant argues that Herz does not teach mixing preference

information associated with a consumer with preference information associated with a

plurality of consumers wherein a degree to which the preference information associated

with the plurality of consumers is different than a second degree to which second

preference information associated with a second consumer is mixed with preference

information of a second plurality of consumers. The Examiner answers that Herz

teaches in column 16, line 60 – column 17, line 7 "The distance between two target

objects X and Y with respect to their entire multi-attribute profiles P.sub.X and P.sub.Y

is then denoted d(X,Y) or d(P.sub.X, P.sub.Y) and defined as: (((distance with respect

to attribute a)(weight of attribute a)).sup.k +((distance with respect to attribute b)(weight

of attribute b)).sup.k +((distance with respect to attribute c)(weight of attribute c)).sup.k

+ . . .).sup.k where k is a fixed positive real number, typically 2, and the weights are

non-negative real numbers indicating the relative importance of the various attributes.

For example, if the target objects are consumer goods, and the weight of the "color"

attribute is comparatively very small, then price is not a consideration in determining

similarity: a user who likes a brown massage cushion is predicted to show equal interest

in the same cushion manufactured in blue, and vice-versa. On the other hand, if the

weight of the "color" attribute is comparatively very high, then users are predicted to

show interest primarily in products whose colors they have liked in the past: a brown

massage cushion and a blue massage cushion are not at all the same kind of target

object, however similar in other attributes, and a good experience with one does not by itself inspire much interest in the other" Target objects may be of various sorts, and it is sometimes advantageous to use a single system that is able to compare tar get objects of distinct sorts. For example, in a system where some target objects are novels while other target objects are movies, it is desirable to judge a novel and a movie similar if their profiles show that similar users like them (an associative attribute). However, it is important to note that certain attributes specified in the movie's target profile are undefined in the novel's target profile, and vice versa: a novel has no "cast list" associative attribute and a movie has no "reading level" numeric attribute. In general, a system in which target objects fall into distinct sorts may sometimes have to measure the similarity of two target objects for which somewhat different sets of attributes are defined. This requires an extension to the distance metric $d(*,*)$ defined above. In certain applications, it is sufficient when carrying out such a comparison simply to disregard attributes that are not defined for both target objects: this allows a cluster of novels to be matched with the most similar cluster of movies, for example, by considering only those attributes that novels and movies have in common. However, while this method allows comparisons between (say) novels and movies, it does not define a proper metric over the combined space of novel s and movies and therefore does not allow clustering to be applied to the set of all target objects. When necessary for clustering or other purposes, a metric that allows comparison of any two target objects (whether of the same or different sorts) can be defined as follows. If a is an attribute, then let Max(a) be an upper bound on the distance between two values of

attribute a; notice that if attribute a is an associative or textual attribute, this distance is

an angle determined by arccos, so that Max(a) may be chosen to be 180 degrees, while

if attribute a is a numeric attribute, a sufficiently large number must be selected by the

system designers. The distance between two values of attribute a is given as before in

the case where both values are defined; the distance between two undefined values is

taken to be zero; finally, the distance between a defined value and an undefined value

is always taken to be Max(a)/2. This allows us to determine how close together two

target objects are with respect to an attribute a, even if attribute a does not have a

defined value for both target objects. The distance d(*,*) between two target objects with

respect to their entire multi-attribute profiles is then given in terms of these individual

attribute distances exactly as before. It is assumed that one attribute in such a system

specifies the sort of target object ("movie", "novel", etc.), and that this attribute may be

highly weighted if target objects of different sorts are considered to be very different

despite any attributes they may have in common. Also, Herz teaches that consumers

are also classified as target objects (see column 12, lines 25-37). Therefore, Herz

teaches two target objects (i.e. movies, novels, consumers) and where a metric that

allows comparison of any two target objects (whether of the same or different sorts) can

be defined and allows a cluster of one target object to be matched with the most similar

cluster of another target object. Therefore, Herz teaches mixing preference information

associated with a consumer (i.e. target object; see column 12, lines 1-37) with

preference information associated with a plurality of consumers (i.e. clusters of target

objects) and a metric that allows comparison between two target objects (whether of the same or different sorts).

Conclusion

5.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action.   In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action.   In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL LASTRA whose telephone number is 571-272-6720. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ERIC W. STAMBER can be reached on 571-272-6724. The Examiner's RightFax number is 571-273-6720.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel Lastra
June 8, 2005

RETTA YEHDEGA
PRIMARY EXAMINER